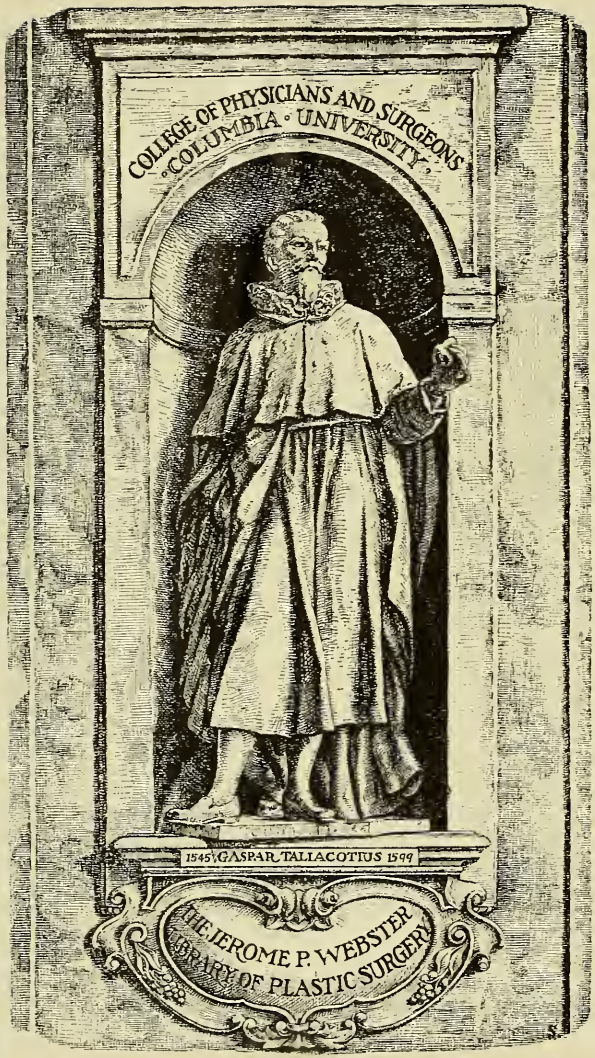
Ashton
Ventral hernia following abdominal operations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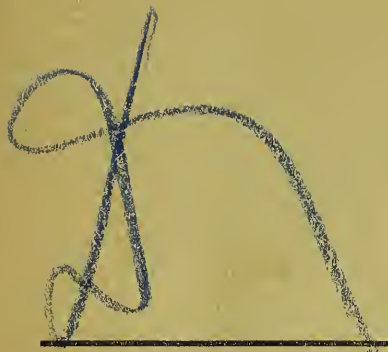

VENTRAL HERNIA FOLLOWING ABDOMINAL OPERATIONS.

BY

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Professor of Gynæcology in the Medico-Chirurgical College of Philadelphia.

A Clinical Lecture delivered at the Medico-Chirurgical Hospital.

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*VENTRAL HERNIA FOLLOWING ABDOMINAL OPERATIONS.**

By WILLIAM EASTERLY ASHTON, M.D.,
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GENTLEMEN: The patient I bring before you this morning presented herself at the Dispensary for Diseases of Women, with the following history: She is a married woman, 28 years old, and the mother of three children. Eighteen months ago she had an abdominal operation performed for pelvic disease. Her recovery from this operation was rapid, and there was entire relief from all her old symptoms. Fifteen months ago, however, she noticed a small lump low down along the line of the abdominal incision, which became prominent when she was in the erect position or during the act of straining. In the recumbent posture the swelling would entirely disappear. She has suffered no inconvenience from this, except occasionally a slight pain in the region of the tumor, and at times, also, a sense of bearing down or weight in the lower abdomen. She further tells us that the enlargement has steadily increased in size.

As I expose the abdomen of our patient, you will notice a cicatrix about three inches long, beginning in the median line a short distance

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below the umbilicus. This scar marks the position and extent of the incision made at the operation eighteen months ago. As the patient lies before you, there is apparently nothing abnormal in this cicatrix, but I shall now ask her first to cough and then to bear down. Immediately you perceive, near the lower angle of the incision, a small lump about the size of a hen's egg. As the intra-abdominal pressure is taken off, you will notice that the enlargement has disappeared. We shall now place the patient in the erect position, and at once the tumor appears again.

We have, then, in this case, a tumor which is evidently acted upon by intra-abdominal pressure; therefore, you will at once jump to the conclusion that the enlargement is a ventral hernia. Although in this instance you would be correct in so thinking, yet we must never risk an opinion on the evidence of one symptom alone, especially when there are other signs to aid us in a diagnosis.

A ventral hernia may be mistaken for a tumor in the abdominal wall or a growth within the peritoneal cavity. A hernia will give a resonant note upon percussion, unless there be impacted fæces or the omentum occupies the sac. You will notice, as I percuss over this enlargement while the patient is bearing down, that the sound is tympanitic, showing there is air beneath my finger. If we were dealing, on the other hand, with a tumor of the belly-wall or of the abdominal cavity, the note would be flat or dull, except in very rare instances. You must remember, also, that we

may elicit a clear note upon deep percussion over some growths situated within the belly-wall. This is due to the fact that the force of the percussion blow is transmitted to the intestines through the tumor. Again, this enlargement is not seen, nor are we able to palpate it, unless the patient bears down or assumes the erect position. Furthermore, palpation gives the characteristic sensation of bowel to the examining fingers. And, finally, as I press my finger along the cicatrix, you will notice that it sinks more deeply at the lower angle than at any other point. The reason of this is, that my finger has slipped past the ring or opening into the abdominal cavity through which the bowel protrudes.

Taking into consideration, therefore, the history of this patient, and also the physical signs just elicited, there should be no doubt left in our minds as to this enlargement being a post-operative ventral hernia. There are several causes for a hernia following an abdominal section, chief among which is the improper suturing of the incision in the belly-wall. Longgear, of Detroit, in a recent able article upon this subject, sums up the entire matter in a few terse words, which I cannot do better than quote to you. He says that "this procedure is not, as many seem to consider it, the simple bringing together of two smooth surfaces of one homogeneous tissue, but of a number of structures, each differing essentially from its neighbor in tension, elasticity, resistance, function, reparative power, physical conformation, etc., and requiring for

their perfect union exact approximation of like tissues." Thus, you can readily understand, gentlemen, why it is that hernia is so apt to follow operations in which the abdominal incision has been closed by a single layer of sutures. It is impossible, with this method of suturing, to either prevent the retraction of the aponeurotic fascia or to bring its cut edges in close apposition for a sufficient length of time to insure firm union. The strength of the abdominal wall depends almost entirely upon the integrity of the aponeurosis; and if this is in any way interfered with, hernia follows as a natural sequence. Again, granting for the moment that accurate union can be accomplished, the desired end would not be attained, as a single layer of sutures could not be left in position long enough to secure firm union of the aponeurosis, for you all know that this tissue requires several weeks at least to become completely united.

The use of drainage is also a cause of ventral hernia. The edges of the aponeurosis, where the tube or gauze passes through the belly-wall, cannot be approximated; consequently hernia is likely to follow upon the slightest exciting cause. This post-operative complication is but one of the many reasons against the unscientific and far too frequent use of drainage. In the past, it has been a necessary procedure in dealing with the surgery of the pelvis; but since the Trendelenberg posture has been employed this necessity no longer exists, and drainage should be the exception, not the rule. Abscesses occurring

in the abdominal incision are also a cause of these herniæ. Under these circumstances union of the aponeurotic fascia is prevented. Again, in certain conditions of malnutrition, union is either delayed or so interfered with that hernia results. Finally, there are several exciting causes which it is important for you to remember, namely, getting up too soon after operation, heavy work or lifting of any kind, straining at stool or vomiting, and also an improper or careless use of the abdominal supporter.

You must always bear in mind these causes of hernia in the post-operative treatment of your cases, and insist upon great care for at least one year after operation. The abdominal bandage is to be worn for twelve months. Although I admit that, ordinarily, it does not support the line of incision, yet I believe it to be of service when any great strain is put upon the abdominal walls.

The bowels should be kept free, so as to avoid all straining at stool. Ether-vomiting occurring immediately after operation is not, in my judgment, a likely cause of hernia, for the reason that the tissues during the first few days are firmly held in apposition by the sutures. However this may be, rapidity in operating lessens the danger of ether-saturation, and, consequently, the tendency to vomit is, in a great measure, prevented. Severe attacks of vomiting occurring after recovery has taken place are likely to cause a rupture. Therefore, I would advise against sea-voyages for the first year following operation. For the same rea-

son, heavy work and lifting must be avoided. If this is impossible, owing to the circumstances of a patient, care must be taken to keep the bandage firmly and properly applied.

The subjective symptoms caused by ventral hernia are not constant, but vary in different cases. Pain may be felt at the site of rupture, or there may be frequent attacks of colic due to slight kinking of the intestine from adhesions in the neighborhood of the ring. The bowels are apt to be more or less constipated, and frequently digestion is interfered with. Again, adhesions in the lower abdomen may cause vesical disturbances; and, finally, nervous symptoms may manifest themselves.

There is but little danger, as a rule, to be apprehended from a ventral hernia, yet cases are upon record where spontaneous rupture of the sac has taken place, or strangulation has occurred. Finally, the intestinal protrusion may be so great that the life of the patient is made not only miserable, but utterly useless.

You, naturally, will want to know the frequency with which these post-operative herniæ occur. Candidly, I am unable to tell you, for the simple reason that statistics upon this subject are thoroughly unreliable. Many of the patients who suffer from these herniæ seek aid elsewhere, rather than return to the original operator; consequently, a surgeon cannot estimate the percentage of ruptures occurring in his practice. We know, however, that this post-operative complication or sequela is more frequent than has generally been supposed to be the case.

Before discussing with you the operative technique employed for the cure of these herniæ, let me refer for a moment to their prevention :—

From what has been already said this morning, you now have a definite idea of the causes producing this condition, and also the necessity for guarding against them. I have made myself sufficiently clear upon the dangers of drainage in the causation of this herniæ, and I shall, therefore, not enlarge upon this point. Let me, however, say a few words to you in reference to the method I employ in closing the abdominal incision after cœliotomy, as this is most important in the prevention of ventral hernia. I use three layers of sutures. The peritoneum is first united by a continuous silk suture, No. 3 braided silk. After this is accomplished the anæsthetic is withdrawn. The muscles and aponeurosis are then brought together with either a continuous suture of silk or kangaroo-tendon, or an interrupted suture of silk-worm gut. Finally, the skin and superficial fasciæ are united with silk-worm gut, which is removed at the end of one week. By this method the deep structures of the abdominal wall are firmy held together by buried sutures, thus reducing to a minimum the dangers of hernia.

As our patient is now completely under the influence of the anæsthetic, I shall at once proceed, with the assistance of Dr. Earley, to the operation for the relief of the hernia. We make the incision through the skin carefully, so as not to endanger the contents of the sac

below. The true covering of the hernia is now exposed, and we find it to consist of the peritoneum. This is, however, not always the case; for when hernia follows the use of drainage, the edges of the peritoneum not having been originally united, the sac is formed simply of skin and superficial fascia.

Before opening the sac, you will notice I carefully examine its contents to make sure that a knuckle of intestine is not adherent; otherwise the bowel might be wounded in making the incision. As the sac is lifted up, those of you who are near can look directly into its cavity, which is now entirely empty, as the intestines have receded within the abdomen. The distended peritoneum is now quickly and completely separated from the layers of the abdominal wall, to which it is firmly attached. This separation is continued until the sac is entirely free up to the edge of the ring. We now remove the sac at this point, and, with a curved needle threaded with No. 3 braided silk, introduce a continuous suture through the peritoneum and close the opening into the abdominal cavity.

The next step in the operation is to expose the edges of the muscles and fascia by denuding the hernial opening in the abdominal wall. I have now removed all the newly-formed tissue and the edges of the recti muscles, and their aponeuroses are exposed to view. We unite these structures with a continuous suture of silk, and, finally, bring together the skin and subcutaneous tissue with silk-worm gut.

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